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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 March 2006*.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,10-17,22-25,27-38,40-42 and 44-66* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *25,27-38,40-42,44-54 and 56-65* is/are allowed.

6)☒ Claim(s) *1-5,10-17,22-24,55 and 66* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☒ All   b)☐ Some * c)☐ None of:

   1.☒ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *9/12/05, 12/12/05*.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

DETAILED ACTION

- This action is responsive to the amendment filed on March 16, 2006.

- Claims 1-5, 10-17, 22-25, 27-38, 40-42, and 44-66 are pending. Claims 6-9, 18-

  21, 26, 39, and 43 are canceled.

- Amendments to the specification are acknowledged and accepted.

Allowable Subject Matter

Claims 25, 27-38, 40-42, 44-54, and 56-65 are allowed.

Specification

The lengthy specification has not been checked to the extent necessary to

determine the presence of all possible minor errors. Applicant's cooperation is

requested in correcting any errors of which applicant may become aware in the

specification.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 22-24, 55, and 66 are rejected under 35 U.S.C. 101 because the claimed

invention is directed to non-statutory subject matter. Claims 22-24, 55, and 66 is drawn

to functional descriptive material NOT claimed as residing on a computer readable

medium. MPEP 2106.IV.B.1(a) (Functional Descriptive Material) states:

"Data structures not claimed as embodied in a computer-readable medium are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer."

"Such claimed data structures do not define any structural or functional interrelationships between the data structure and other claimed aspects of the invention which permit the data structure's functionality to be realized."

Claims 22-24, 55, and 66, while defining a computer program product, comprises a recording medium. It does not recite a "computer-readable medium" and is thus non-statutory for that reason. A recording medium can range from paper on which the program is written, to a program simply contemplated and memorized by a person. The examiner suggests amending the claim to embody the program on a "computer-readable medium" in order to make the claim statutory.

"In contrast, a claimed computer-readable medium encoded with the data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory." - MPEP 2106.IV.B.1(a)

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 10, 13, and 22 are rejected under 35 U.S.C. 102(e) as being

anticipated by Barry et al. (US 6606165), hereafter Barry.

Regarding claim 1, Barry teaches a distributed printing control apparatus

comprising:

A data allocation module that divides print data (Barry, fig 12, virtual job router

#354 divides print data), which is generated by an application program and is an object

to be printed (Barry, col 4, ln 33-35, wherein workstations #10 in fig 1 inherently

generate print data with an application), by page and specifies information representing

pages allocated to multiple printers (Barry, col 14, ln 14-30, wherein print data is divided

by page, also see fig 12, pages #356 and #358 being allocated to multiple printers #364

and #368); and

A data output control module (Barry, fig 12, job manager #360 and Virtual

engines #362 and #366) that outputs the print data in a distributive manner to the

multiple printers according to the information specified by said data allocation module

(Barry, col 15, ln 7-14, wherein print data is output to multiple printers according to

information specified by data allocation module. See fig 12 showing data being output

in a distributive manner), said distributed printing control apparatus being capable of

printing multiple copies of the print data according to a requirement (Barry, for example,

tables 4 and 5 showing printing multiple copies according to job setting requirements.

Multiple copies are also shown in col 8, ln 45-51),

Wherein said data allocation module arranges pages included in each copy in a

sequence of the pages, divides all the pages of the multiple copies into the number of

the multiple printers specified as destinations of distribution, and allocates respective

divisions to the multiple printers (Barry, for example, tables 4 and 5, wherein multiple

copies are arranged, divided, and allocated to multiple printers), and

Said data output control module carries out the distributive output of the print

data to the multiple printers in a substantially parallel manner (Barry, col 6, ln 12-15,

wherein distributive printing occurs in a parallel manner. One objective of Barry is to

use multiple print engines to output data in parallel to reduce printing time and to

optimize the output of the printers), each distributive output having a convert process

and a transmit process by each page, the convert process converting the print data of

each page, sequentially form a head page of each division, to a format suitable for each

printer specified as a destination of distribution, the transmit process transmitting the

converted print data (Barry, col 16, ln 46-51, wherein each page is converted and

transmitted. Converting is done depending on the characteristics of the page and how

to match the page with engine characteristics. Jobs are split up and placed in a buffer

to be converted and printed according to a standard queue order, col 13, ln 50-60).

Regarding claim 10, claim 10 recites identical features as claim 1 except claim 10

is a method claim. Thus, arguments similar to that presented above for claim 1 are

equally applicable to claim 10.

Claim 13 recites identical features as claim 1 except claim 13 is a computer

readable medium claim. Thus, arguments similar to that presented above for claim 1 is

equally applicable to claim 13. Applicant's attention is further invited to col 4, ln 38-43 of

Barry, wherein central processor distributes print jobs. Distribution as seen in fig 12, for

example, is performed by software, seen by software RIP #350 for example.

Claim 22 recites identical features as claim 1 except claim 22 is a computer

readable medium claim. Thus, arguments similar to that presented above for claim 1 is

equally applicable to claim 22. Applicant's attention is further invited to col 4, ln 38-43 of

Barry, wherein central processor distributes print jobs. Distribution as seen in fig 12, for

example, is performed by software, seen by software RIP #350 for example.

Claims 3, 4, 11, 15, 16 and 23 are rejected under 35 U.S.C. 102(e) as being

anticipated by Owa et al. (US 6348971), hereafter Owa.

The applied reference has a common assignee with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art

under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome

either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in

the reference was derived from the inventor of this application and is thus not the

invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claim 3, Owa further teaches a distributed printing control apparatus

comprising:

A data allocation module that divides print data, which is an object to be printed,

by page and specifies information representing pages allocated to multiple printers

(Owa, col 8, ln 35-38, wherein printer selection means selects printer for print data by

page, thereby separating the print data to be allocated to multiple printers. Setting

means, col 8, ln 27-29, aids in print data division);

A data output control module that distributes the print data to each of the multiple

printers according to the information specified by said data allocation module (Owa, col

8, ln 49-60, wherein information specified by printer selection means and setting means

is used to generate print data to be distributed to each of the printers) and outputs the

distributed print data to each of the multiple printers via a printer driver corresponding to

a type of each printer (Owa, col 9, ln 23-30, as a general example, in the setting means

the necessary execution modules are called for generation of print data for each printer,

i.e. specific execution modules corresponding to a type of printer are used to generate

print data. In col 9, ln 50-60, it can be seen, more specifically, that the setting means

comprises a printer driver #44 of fig 8, wherein core driver #44a designates the

execution modules #44b specified by the execution module group #53. In col 11, ln 10-

15, it is seen that a printer driver is configured for each type of printer. After the print

data is generated by a unique driver, it is outputted in a distributive manner to each type

of printer, col 9, ln 61-col 10, ln 9. Print request router #46 distributes data generated

by a specific driver to the specified printer according to the information specified by data

allocation module); and

A printer speed performance detection module that collects information with

regard to performances of the multiple printers as destinations of distribution from the

printer driver (Owa, col 12, ln 12-15, wherein printer state information is collected from

multiple printers and stored in printer state management table, and col 10, ln 23-34,

wherein information stored in printer state management table comprises printer speed performance information) and decides a performance on a printing speed of each of the multiple printers from the collected information of performances of the multiple printers, wherein said data allocation module specifies the pages allocated to the multiple printers according to the performance on the printing speed of each printer decided by said printer speed performance detection module (Owa, col 12, ln 35-54, wherein user designates information regarding the required speed performance of the print job. Based upon the information, the printer is selected according to the performance information. In col 12, ln 55-60, pages are allocated to multiple printers).

Regarding claim 4, which depends from claim 3, Owa teaches a distributed printing control apparatus further comprising:

A distribution information setting module that causes an input window to be displayed on a display device and sets various pieces of information regarding distribution of the print data based on input data from an input device (Owa, col 8, ln 18-21, wherein user information detection means receives input from user. Fig 12a shows an input window to be displayed for setting distributed printing information, therefore an input window generating means is inherent to the apparatus. Input means is pointer #73, col 12, ln 40-41),

wherein said data allocation module specifies the pages allocated to the multiple printers, based on the various pieces of information set by said distribution information setting module (Owa, col 12, ln 35-54, wherein information is set by said distribution

module, and wherein a printer is selected for each page based on set information, and

col 8, ln 24-29, wherein print data is allocated based upon set information), and

said distribution information setting module comprises a display control module
that generates an illustrated image, which includes an arrangement of printing media
and corresponds to the information specified by said data allocation module, based on
the various pieces of information and causes the illustrated image to be displayed on
said display device (Owa, fig 12b, wherein screen #81 displays illustrated image.
Information regarding "Print Pages" and "Printer" is drawn on the screen. Print pages
information P1~10, P15~25 includes arrangement of printing media corresponding to
information specified by data allocation module corresponding to printer PRN13. Image
is generated according to information specified by data allocation module in fig 12a).

Regarding claim 11, claim 11 recites identical features as claim 3 except claim 11
is a method claim. Thus, arguments similar to that presented above for claim 3 are
equally applicable to claim 11.

Claim 15 recites identical features as claim 3 except claim 15 is a computer
readable medium claim. Thus, arguments similar to that presented above for claim 3 is
equally applicable to claim 15. Applicant's attention is further invited to col 17, ln 59-67
of Owa, wherein all or some of the programs and data according to the invention are
stored on a computer readable storage medium such as RAM or ROM, for example.

Claim 16 recites identical features as claim 4 except claim 16 is a computer
readable medium claim. Thus, arguments similar to that presented above for claim 4 is
equally applicable to claim 16.

Claim 23 recites identical features as claim 3 except claim 23 is a computer readable medium claim. Thus, arguments similar to that presented above for claim 3 is equally applicable to claim 23. Applicant's attention is further invited to col 17, ln 59-67 of Owa, wherein all or some of the programs and data according to the invention are stored on a computer readable storage medium such as RAM or ROM, for example.

Claims 5, 12, 17, and 24 are rejected under 35 U.S.C. 102(e) as being anticipated by Shimada (US 6,654,136).

Regarding claim 5, Shimada teaches a distributed printing control apparatus for printing print data (Shimada, col 1, ln 48-52, distributed printing control apparatus) to be printed in multiple sets (Shimada, fig 12, no. of copies #771 specifies multiple sets) comprising:

A setting module that receives instructions from a user and determines whether or not multiple printers should be prohibited from printing one copy or one set of identical pages in accordance with the user's instructions (Shimada, fig 12, multiple sets are specified with no. of copies #771. Multi-printer button #78 designates whether or not multiple printers should be prohibited from printing one copy according to user's instructions. Multi-printer controller #66 determines received setting instruction from user, col 6, ln 48-59);

A data allocation module that, when the setting module determines that multiple printers should be prohibited from printing one copy or one set of identical pages in accordance with the user's instructions (Shimada, multiple printers are prohibited by not

selecting multi-printer print #78), allocates the print data to be printed in multiple sets to

a single printer (Shimada, col 6, ln 66-col 7, ln 16, wherein print data is spooled to port

of connected and designated printers. If multiple printers is not designated, print data is

only sent to one spool port); and

A data output control module that, when the setting module determines that

multiple printers should be prohibited from printing one copy or one set of identical

pages in accordance with the user's instructions, outputs the print data to be printed in

multiple sets to the single printer such that each copy or each set of identical pages is

printed with an identical printer (Shimada, col 7, ln 14-16, wherein USB output task

outputs print data to be printed to the single printer as designated by the absence of the

"multi-printer" selection. The single selected printer is identical to itself, therefore each

copy is printed with an identical printer).

Regarding claim 12, claim 12 recites identical features as claim 5 except claim 12

is a method claim. Thus, arguments similar to that presented above for claim 5 are

equally applicable to claim 12.

Claim 17 recites identical features as claim 5 except claim 17 is a computer

readable medium claim. Thus, arguments similar to that presented above for claim 5 is

equally applicable to claim 17. Applicant's attention is further invited to col 4, ln 55-65,

of Shimada, wherein CPU controls operation of printing system with RAM, ROM, and

corresponding programs.

Claim 24 recites identical features as claim 5 except claim 24 is a computer

readable medium claim. Thus, arguments similar to that presented above for claim 5 is

equally applicable to claim 24. Applicant's attention is further invited to col 4, ln 55-65,

of Shimada, wherein CPU controls operation of printing system with RAM, ROM, and

corresponding programs.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Barry in view of Yacoub (US 6,552,813).

Regarding claim 2, which depends from claim 1, Barry teaches a distributed

printing control apparatus comprising a data allocation module and a data output control

module for the distributed printing of multiple copies of pages into a plurality of printers.

Barry does not expressly disclose a distributed control apparatus further comprising a

virtual printer driver storage module that stores a virtual printer driver for specifying

information on a virtual printer corresponding to the multiple printers, and an

intermediate print data generation module that executes the virtual printer driver and

thereby obtains intermediate print data, which is adequate for the virtual printer, from an

application program that generates source data of the print data. Yacoub, however,

discloses a distributed printing control apparatus comprising a virtual printer driver

storage module (Yacoub, col 5, ln 35-44, Virtual Printer is implemented in a computer,

which implicitly has a storage module) that stores a virtual printer driver for specifying

information on a virtual printer corresponding to the multiple printers (Yacoub, col 5, ln

55-58, the virtual printers reads a database of printer information corresponding to a

plurality of printers), and an intermediate print data generation module that executes the

virtual printer driver and thereby obtains intermediate print data, which is adequate for

the virtual printer, from an application program that generates source data of the print

data (Yacoub, col 3, ln 59-64, when a job is sent to the virtual printer in col 8, ln 36-40

from application software on client computers, the virtual printers generates

intermediate print data such as choosing the appropriate printer for the job). Once the

intermediate print data has been generated by the distributed printing control apparatus

of Yacoub, the intermediate print data thus obtained is specified as the print data used

in said data allocation module and said data output control module (Barry, col 4, ln 33-

43, wherein data may be received by the distributed printing control apparatus (i.e.

server #14 of fig 1) to create print jobs. Also see Yacoub, col 12, ln 8-9, wherein virtual

printer forwards intermediate data to server for distribution to printers).

Barry and Yacoub are combinable because they are from a similar field of

endeavor of distributed printing to a plurality of printers. At the time of the invention, it

would have been obvious to a person of ordinary skill in the art to combine the virtual

printer driver storage module and intermediate print data generation module of Yacoub

with the distributed printing control apparatus of Barry comprising a data allocation

module, a data output control module for the distributed printing of multiple copies of

pages into a plurality of printers, wherein the intermediate print data is specified as print

data in the data allocation module and data output module. The motivation for doing so

would have been to relieve the user of the burdens of trying to find or select the most

appropriate printer for the job (Yacoub, col 5, ln 1-2), as well as efficiently allocate

pages to the proper printer for cost and time savings with virtual routing (Barry, col 14,

ln 55-65). Therefore, it would have been obvious to combine Yacoub with Barry to

obtain the invention as specified in claim 2.

Regarding claim 14, which depends on claim 13, claim 14 recites identical

features as claim 2 except claim 14 is a computer readable medium claim. Thus,

arguments similar to that presented above for claim 2 is equally applicable to claim 14.

Applicant's attention is further invited to col 4, ln 38-43 of Barry, wherein central

processor distributes print jobs. Distribution as seen in fig 12 of Barry, for example, is

performed by software, seen by software RIP #350 for example. See also Yacoub, col

5, ln 35-44, wherein distributed printer controller is implemented as a virtual printer

application on a computer or server.

Response to Arguments

With respect to applicant's arguments regarding the 35 U.S.C. 101 rejections of

claims 22-24, 55, and 66, the examiner notes the applicant's amendment that allegedly

overcomes the rejection. However, as explained above, a computer program must be

claimed on a <u>computer-readable medium</u> to be statutory. Thus, the 35 U.S.C. 101

rejections of claims 22-24, 55, and 66 are maintained.

Applicant's arguments, see Remarks, pages 25-27, filed March 16, 2006, with

respect to the rejection(s) of claim(s) 1, 3, 10, 11, 13, 15, 22, and 23 under 35 U.S.C.

102 have been fully considered and are persuasive. Therefore, the rejection has been

withdrawn. However, upon further consideration, a new ground(s) of rejection is made

in view of Barry et al. and Owa et al., respectively.

Applicant's arguments with respect to claims 2 and 14 have been considered but

are moot in view of the new ground(s) of rejection.

Applicant's arguments with respect to claims 4 and 16 have been considered but

are moot in view of the new ground(s) of rejection.

Applicant's arguments filed March 16 have been fully considered but they are not

persuasive. Applicant argues that the Shimada reference does not disclose a setting

module having the functionality specified in amended claim 5 in pages 27-28. However,

as it has been shown above, Shimada does teach the distributed printing control

apparatus as defined in claims 5, 12, 17, and 24. In fig 12 Shimada teaches a setting

module for receiving instructions to prohibit printing to multiple printers. Based upon the

prohibited printing setting, the data is prohibited from printing to multiple printers, and

the data is then output to a single, identical printer in accordance with the user's

instructions.

Applicant's arguments, see Remarks, pages 29-35, filed March 16, 2006, with

respect to 25, 27-38, 40-42, and 44-66 have been fully considered and are persuasive.

The various 35 U.S.C 103 rejections of claims 25, 27-38, 40-42, and 44-66 have been

withdrawn.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in
this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP
§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37
CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE
MONTHS from the mailing date of this action. In the event a first reply is filed within
TWO MONTHS of the mailing date of this final action and the advisory action is not
mailed until after the end of the THREE-MONTH shortened statutory period, then the
shortened statutory period will expire on the date the advisory action is mailed, and any
extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of
the advisory action. In no event, however, will the statutory period for reply expire later
than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the
examiner should be directed to Dillon J. Murphy whose telephone number is (571) 272-
5945. The examiner can normally be reached on M-F, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, Kimberly Williams can be reached on (571) 272-7471. The fax phone
number for the organization where this application or proceeding is assigned is 571-
273-8300.

Information regarding the status of an application may be obtained from the

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DJM

KIMBERLY WILLIAMS
SUPERVISORY PATENT EXAMINER